

Title (en)
PROCESS FOR GENERATING PLANE TECHNICAL CURVES OR CONTOURS

Title (de)
VERFAHREN ZUR GENERIERUNG VON EBENEN TECHNISCHEN KURVEN ODER KONTUREN

Title (fr)
METHODE DE GENERATION DES PLANSTECHNIQUES COURBES OU CONTOURS

Publication
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Application
EP 94902635 A 19931223

Priority
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• DE 4244462 A 19921224

Abstract (en)
[origin: WO9415267A2] A process for generating plane technical curves or contours for representing technical drawings generates successive points of a grid in the x-y plane with as few simple computing operations as possible by digitalising parametric polynomial and rational cubic Bezier curves. For that purpose, the parametric form of a curve is transformed into the implicit form $f(x, y) = 0$ by means of a cubic polynome f . The arch of the curve to be generated is (if required) decomposed into sections in which none of the functions $x'(t)$, $y'(t)$, $x'(t)+y'(t)$ and $x'(t)-y'(t)$ changes its sign and the curve described by $f = 0$ does not intersect itself. In each section, the next point of the grid is selected between points which may be attained by an increment in one coordinate direction or at the same time in both coordinate directions from an already determined point of the grid next to the curve, by determining the sign of f in the center between both candidates. The process requires 10 parameters which are updated per point of the grid by only 6 additions. The domains of application are for example laser lighting devices (printers, plotters, etc.), microlithography with electron or X-rays, microsystems technology, binary and integrated optics, production of optical waveguides, 2D robot controls, printing technology and visualisation of design data.

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IPC 8 full level
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